Title (en)

PROPORTIONAL VALVE, ELECTRIC SHOWER INCORPORATING THE PROPORTIONAL VALVE AND TAP INCORPORATING SAME

Title (de)

PROPORTIONALVENTIL, ELEKTRISCHE DUSCHE MIT DEM PROPORTIONALVENTIL UND WASSERHAHN DAMIT

Title (fr)

SOUPAPE PROPORTIONNELLE, ET DOUCHE ÉLECTRIQUE ET ROBINET INCORPORANT LA SOUPAPE PROPORTIONNELLE

Publication

EP 3227593 B1 20200930 (EN)

Application

EP 15820569 A 20151202

Priority

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- GB 2015053680 W 20151202

Abstract (en)

[origin: WO2016087849A1] A proportional valve is provided that comprises an input port (3) and an output port (5), with a diaphragm (19) therebetween. A diaphragm plate (21) with a pilot orifice (31) formed therethrough is mounted to the diaphragm (19). The valve has a solenoid (7) comprising an armature (15) and a field winding (17), with the armature being movable in an opening direction in response to a magnetic field generated by the field winding. A spring assembly (13) is arranged to provide a biassing force to the armature (15) in its closing direction. In its closed position, the diaphragm plate (21) sits in a main orifice (20) between the input and output ports to block flow of fluid therebetween, with the armature (15) blocking the pilot orifice (31). Opening movement of the armature (15) opens the pilot orifice (31) to allow fluid to flow therethrough, in turn allowing the diaphragm plate (21) to move out of the main orifice (20) to create a gap allowing flow of fluid from the input port (3) to the output port (5). The diaphragm plate (21) and main orifice (20) are configured such that in at least the initial opening movement of the diaphragm plate, the rate of increase of the gap between them changes approximately linearly.

IPC 8 full level

F16K 31/40 (2006.01)

CPC (source: EP US)

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